

WHAT IS CLAIMED IS:

1. A communication system comprising:

at least one radio base station which can communicate with plural mobile radio terminal equipment and the radio base station has call control function, wherein the radio base station is connected to a wired network; and

a circuit controller which controls communications between said plural mobile radio terminal equipment and between said mobile radio terminal equipment and other terminal equipment connected to said wired network, wherein the circuit controller is connected to said radio base station through said wired network and the circuit controller directs said radio base station to carry out call control.

2. A communication system comprising:

at least one radio base station which can communicate with plural mobile radio terminal equipment and the radio base station has call control function, wherein the radio base station is connected to a wired network;

at least one terminal equipment which is connected to said radio base station through said wired network and the terminal equipment has an interface for an analog telephone network and an ISDN (Integrated Services Digital Network) network; and

a circuit controller which controls communications between said plural mobile radio terminal equipment, and

between said mobile radio terminal equipment and other terminal equipment connected to said wired network, and between said mobile radio terminal equipment and other terminal equipment connected to said analog telephone network and said ISDN network, wherein the circuit controller is connected to said mobile radio station through said wired network.

3. A communication system comprising:

at least one radio base station which can communicate with plural mobile radio terminal equipment and the radio base station is connected to a wired network, wherein the radio base station includes first call control means for controlling calls;

at least one analog circuit terminal equipment which is connected to said radio base station through said wired network and the analog circuit terminal equipment has an interface for an analog telephone network, wherein the analog circuit terminal equipment includes second call control means for controlling calls;

a circuit controller which is connected to said radio base station and said analog circuit terminal equipment through said wired network, wherein the circuit controller includes communication control means for managing a communication path between said radio base station and said analog circuit terminal equipment; and

voice data processor means for communicating between said mobile radio terminal equipment, and between said

mobile radio terminal equipment and terminal equipment which is connected to said analog telephone network.

4. A communication system comprising:

at least one radio base station which can communicate with plural mobile radio terminal equipment and the radio base station is connected to a wired network, wherein the radio base station includes first call control means for controlling calls;

at least one ISDN terminal equipment which is connected to said radio base station through said wired network and the ISDN terminal equipment has an interface for an ISDN network, wherein the ISDN terminal equipment includes second call control means for controlling calls;

a circuit controller which is connected to said radio base station and said ISDN terminal equipment through said wired network, wherein the circuit controller includes communication control means for managing a communication path between said radio base station and said ISDN terminal equipment; and

voice data processor means for communicating between said mobile radio terminal equipment, and between said mobile radio terminal equipment and terminal equipment which is connected to said ISDN network.

5. A communication system comprising:

at least one radio base station which can communicate with plural mobile radio terminal equipment and the radio

base station is connected to a wired network, wherein the radio base station includes first call control means for controlling calls;

at least one analog circuit terminal equipment which is connected to said radio base station through said wired network and the analog circuit terminal equipment has an interface for an analog telephone network, wherein the analog circuit terminal equipment includes second call control means for controlling calls;

at least one ISDN terminal equipment which is connected to said radio base station and said analog circuit terminal equipment through said wired network, and the ISDN terminal equipment has an interface for an ISDN network, wherein the ISDN terminal equipment includes third call control means for controlling calls;

a circuit controller which is connected to said radio base station and said analog circuit terminal equipment and said ISDN terminal equipment through said wired network, wherein the circuit controller includes communication control means for managing a communication path among said radio base station and said analog circuit terminal equipment and said ISDN terminal equipment; and

voice data processor means for communicating between said mobile radio terminal equipment, and between said mobile radio terminal equipment and terminal equipment which is connected to said analog telephone network, and between said mobile radio terminal equipment and terminal equipment which is connected to said ISDN network.

6. A communication system in accordance with claim 1, wherein data communication protocol conversion means for transmitting and receiving data other than voice data are provided for one of said radio base station and said circuit controller.

7. A communication system in accordance with claim 1, wherein data communication protocol conversion means for transmitting and receiving data other than voice data are provided for said wired network.

8. A communication system in accordance with claim 5, wherein data communication protocol conversion means for transmitting and receiving data other than voice data are provided for one of said radio base station and said circuit controller.

9. A communication system in accordance with claim 5, wherein data communication protocol conversion means for transmitting and receiving data other than voice data are provided for said wired network.

10. A communication system comprises plural mobile radio terminal equipment and plural radio base stations which can communicate with each mobile radio terminal equipment through plural communication channels, wherein said plural radio base stations are connected to each other through a

network and connected to an analog telephone network and an ISDN network through a circuit terminal equipment and an interface, wherein said radio base stations have respective service areas which overlap each other and said radio base stations have first means for transmitting control signals to said mobile radio terminal equipment, said communication system further comprising:

second means for judging availability of a vacant communication channel which is included in at least one radio base station of said plural radio base stations; and

third means for stopping transmission of said control signals from said radio base station when it is judged that a vacant communication channel is not available.

11. A communication system in accordance with claim 10, wherein fourth means for restarting transmission of said control signals when a vacant communication channel is available in said radio base station.

12. A communication system in accordance with claim 10, wherein said second and third means are provided for respective said radio base stations.

13. A communication system comprises plural mobile radio terminal equipment and plural radio base stations which can communicate with each mobile radio terminal equipment through plural communication channels, wherein said plural radio base stations are connected to each other through a

network, wherein said radio base stations have respective service areas which overlap each other, said communication system further comprising:

control means for transmitting control signals to said mobile radio terminal equipment from one radio base station of said plural radio base stations and for stopping transmission of control signals from said plural radio base stations other than said one radio base station.

14. A communication system in accordance with claim 13, wherein respective service areas of said plural radio base stations are allocated to coincide with each other, and wherein said control means further control to switch said one radio base station which transmits said control signals over to another radio base station under predetermined conditions.

15. A communication system in accordance with claim 13, wherein said control means further comprising:

first means for judging availability of a vacant communication channel of said one radio base station which is transmitting said control signals;

second means for stopping transmission of said control signals from said one radio base station when it is judged that a vacant communication channel is not available; and

third means for restarting transmission of said control signals from another radio base station other than said one radio base station which is judged that a vacant

communication channel is not available when a vacant communication channel is available in said another radio base station.

16. A communication system in accordance with claim 15, wherein said control means further comprising:

fourth means for synchronizing timing between stopping transmission of said control signals by said second means and restarting transmission of said control signals by said third means.

17. A communication system in accordance with claim 13, wherein said plural radio base stations are allocated so that respective service areas of said plural radio base stations almost coincide with each other, wherein said control means demand at least one radio base station out of said plural radio base stations to transmit said control signals when it is judged that all communication channels of said plural radio base stations are occupied.

18. A communication system in accordance with claim 10, wherein said communication system further comprises a circuit control device of controlling communication and the circuit control device is connected to said network.

19. A communication system in accordance with claim 13, wherein said communication system further comprises a circuit control device of controlling communication and the

circuit control device is connected to said network.

20. A' communication system in accordance with claim 18, wherein said circuit control device further comprises said control means.

21. A communication system in accordance with claim 19, wherein said circuit control device further comprises said control means.

22. A communication system in accordance with claim 10, wherein terminal equipment are connected to said network in order to communicate with outside of said network.

23. A communication system in accordance with claim 13, wherein terminal equipment are connected to said network in order to communicate with outside of said network.

24. A communication system comprises plural mobile radio terminal equipment and plural radio base stations which can communicate with each mobile radio terminal equipment through plural communication channels, wherein said plural radio base stations are connected to each other through a network, wherein said radio base stations have respective service areas which overlap each other and said radio base stations have first means for transmitting control signals to said plural mobile radio terminal equipment, said communication system further comprising:

second means for recognizing usage of respective communication channels of said plural radio base stations; and

third means for directing said plural radio base stations to start and to stop transmitting said control signals in accordance with result of recognition of said second means.

25. A communication system in accordance with claim 24, said communication system further comprising:

fourth means for registering specific radio base stations of which respective service areas almost coincide with each other; and

fifth means for activating said second means to recognize usage of respective communication channels of radio base stations which are registered in said fourth means.

26. A communication system in accordance with claim 10, wherein said mobile radio terminal equipment are PHS (Personal Handy-phone System) telephones.

27. A communication system in accordance with claim 24, wherein said mobile radio terminal equipment are PHS (Personal Handy-phone System) telephones.

28. A communication system in accordance with claim 10, wherein said network is a LAN (Local Area Network) network.

29. A communication system in accordance with claim 25,  
wherein said network is a LAN (Local Area Network) network.

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